

**AMENDMENTS TO THE CLAIMS:**

**CLAIM LISTING**

This listing of claims will replace all prior versions and listings of claims in the application:

1-27. (cancelled)

28. (currently amended) A method of eliciting neutralizing antibodies to HIV in a mammal comprising:

a) providing a composition comprising at least one isolated or synthetic peptide of claim 23, a suitable pharmaceutically or physiologically acceptable carrier, and optionally an adjuvant;

b) immunizing the mammal with the composition; and

c) optionally testing a blood sample from the mammal to assay for the binding affinity and neutralizing activity of the elicited antibodies,

wherein the isolated or synthetic peptide comprises an amino acid sequence that is a fragment of the following amino acid sequence:

ENV

10	20	30
MRVREIQRNY	QNWWRWG	---
		-MMLLGMLMT
40	50	60
CSIAEDLWVT	VYYGVPVWKE	ATTTLFCASD
70	80	90
AKSYETEVHN	IWATHACVPT	DPNPOEIELE
100	110	120
NVTEGFNMWK	NNMVEQMHD	IISLWDOSLK
130	140	150
PCVKLTPLCV	TLNCTNVNGT	AVNGTNAGSN

160 170 180  
RTNAELKMEI -GEVKNCSFN ITPVGSDKRQ

190 200 210  
-EYATFYNLD LVQIDDSDNS ----SYRLIN

220 230 240  
CNTSVITOAC PKVTFDPIPI HYCAPAGFAI

250 260 270  
LKCNDKKFNG TEICKNVSTV OCTHGIKPVV

280 290 300  
STOLLLNGSL AEEEIMIRSE NLTDNTKNII

310 320 330  
VOLNETVTIN CTRPGNNTRR GIHF--GPGQ

340 350 360  
ALYTTGI-VG DIRRAYCTIN ETEWDKTLQQ

370 380 390  
VAVKLGSLL- -NKTKIIFNS SSGGDPEITT

400 410 420  
HSFNCRGEFF YCNTSKLFNS TWQNNGARL-

430 440 450  
-SNSTESTGS ITLPCRIKQI INMWOKTGKA

460 470 480  
MYAPPIAGVI NCLSNITGLI LTRDGGNSSD

490 500 510  
NSDNETLRPG GGDMRDNWIS ELYKYKVVR

520 530 540  
EPLGVAPTKA KRRVVEREKR AIGL-GAMFL

550 560 570  
GFLGAAGSTM GAASLTLTVO AROLLSGIVO

580 590 600  
QONNLLRAIE AOOHLLQLOTV WGIKOLOARV

610 620 630  
LAVERYLODO RLLGMWGCSG KHICTTFVPW

640 650 660  
NSSWSNRSLD DIWNNMTWMO WEKEISNYTG

670 680 690  
I I Y N L I E E S Q I O O E K N E K E L L E L D K W A S L W

700 710 720  
N W F S I S K W L W Y I R I F I I V V G G L I G L R I I F A

730 740 750  
V L S L V N R V R Q G Y S P L S L O T L L P T P R G P P D R

760 770 780  
P E G I E E E G G E O G R G R S I R I L V N G F S A L I W D D

790 800 810  
L R N L C L F S Y H R L R D L L I A T R I V E L L G R R G

820 830 840  
W E A L K Y L W N L L O Y W G Q E L K N S A I S L L N T T A

850 860 870  
I A V A E C T D R V I E T I G Q R F G R A I L H I P R R I R Q G F E R A L L

wherein, in said amino acid sequence, A is alanine, C is cysteine, D is aspartic acid, E is glutamic acid, F is phenylalanine, G is glycine, H is histidine, I is isoleucine, K is lysine, L is leucine, M is methionine, N is asparagine, P is proline, Q is glutamine, R is arginine, S is serine, T is threonine, V is valine, W is tryptophan, and Y is tyrosine, and wherein said fragment comprises at least one amino acid sequence selected from the group consisting of residues 37-130, residues 211-289, residues 488-530, residues 490-620, residues 680-700, residues 1-530, residues 34-530, residues 531-877 of an envelope glycoprotein of LAV<sub>MAL</sub> virus.

29-32. (cancelled)

33. (currently amended) A method of eliciting neutralizing antibodies to HIV in a mammal comprising:

a) preparing a vaccine comprising at least one isolated, HIV-1 Env peptide of claim 31, a suitable pharmaceutically or physiologically acceptable carrier, and optionally an adjuvant;

b) immunizing the mammal with the vaccine; and

c) optionally testing a blood sample from the mammal to assay for the binding affinity and neutralizing activity of the elicited antibodies,

wherein the isolated or synthetic peptide comprises an amino acid sequence that is a fragment of the following amino acid sequence:

ENV

10	20	30
MRVREIQRNY	QNWWWRWG	---
		-MMLLGMLMT
40	50	60
CSIAEDLWVT	VYYGVPVWKE	ATTTLFCASD
70	80	90
AKSYETEVHN	IWATHACVPT	DPNPOEIELE
100	110	120
NVTEGFNMWK	NNMVEQMHED	IISLWDOSLK
130	140	150
PCVKLTPLCV	TLNCTNVNGT	AVNGTNAGSN
160	170	180
RTNAELKMEI	-GEVKNCFSN	ITPGVGSRKQ
190	200	210
-EYATFYNLD	LVQOIDDSDNS	----SYRLIN
220	230	240
CNTSVITQAC	PKVTFDPIPI	HYCAPAGFAI
250	260	270
LKCNDKKFNG	TEICKNVSTV	OCTHGIKPVV
280	290	300
STOLLLNGSL	AAEEIMIRSE	NLTDNTKNII
310	320	330

VOLNETVTIN CTRPGNNTRR GIHF--GPGQ

340 350 360  
ALYTTGI-VG DIRRAYCTIN ETEWDKTLQQ

370 380 390  
VAVKLGSLL- -NKTKIIFNS SSGGDPEITT

400 410 420  
HSFNCRGEFF YCNTSKLFNS TWQNNNGARL-

430 440 450  
-SNSTESTGS ITLPCRIKQI INMWQKTGKA

460 470 480  
MYAPPIAGVI NCLSNITGLI LTRDGNNSSD

490 500 510  
NSDNETLRPG GGDMRDNWIS ELYKYKVRI

520 530 540  
EPLGVAPTKA KRRVVEREKR AIGL-GAMFL

550 560 570  
GFLGAAGSTM GAASLTLTVO AROLLSGIVQ

580 590 600  
OONNLLRAIE AQQHLLOLTV WGIKOLQARV

610 620 630  
LAVERYLQDQ RLLGMWGCSD KHICHTFVPW

640 650 660  
NSWSNRSLD DIWNNMTWMO WEKEISNYTG

670 680 690  
IIYNLIEESO IOOEKNEKEL LELEDKWASLW

700 710 720  
NWFSISKWLW YIRIFIIVVG GLIGLRIIFA

730 740 750  
VLSLVNRVRQ GYSPLSLQTL LPTPRGPPDR

760 770 780  
PEGIEEEGGE QGRGRSIRLV NGFSALIWDD

790 800 810  
LRNLCLFSYH RLRDLLLAT RIVELLGRRG

820 830 840

WEALKYLWNL LOYWGOELKN SAISLLNTTA

850 860 870  
IAVAECTDRV IEIGORFGRA ILHIPRRIRO GFERALL

wherein, in said amino acid sequence, A is alanine, C is cysteine, D is aspartic acid, E is glutamic acid, F is phenylalanine, G is glycine, H is histidine, I is isoleucine, K is lysine, L is leucine, M is methionine, N is asparagine, P is proline, Q is glutamine, R is arginine, S is serine, T is threonine, V is valine, W is tryptophan, and Y is tyrosine, and the peptide comprises all of the following conserved sequences: positions 37-130, 211-289, 488-530, 490-620, and 680-700 of an envelope glycoprotein of LAV<sub>MAL</sub> virus.

34-50. (cancelled)

51. (New) The method of claim 28, wherein the isolated or synthetic peptide is a glycoprotein.

52. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 37-130 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

53. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 211-289 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

54. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 488-530 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

55. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 490-620 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

56. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 680-700 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

57. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 1-530 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

58. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 34-530 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

59. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 531-877 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

60. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises all of residues 37-130, 211-289, 488-530, 490-620, and 680-700 of an envelope glycoprotein of LAV<sub>MAL</sub> virus.